Recommendations for Employee Health

The services provided by occupational health programs vary greatly depending upon the type of patients served by the facility and occupational health needs within. Some components such as annual tuberculosis skin testing are mandatory by the rules and laws established by the Utah Occupational Safety and Health Administration (UOSHA) and the Utah Department of Health Bureau of Health Facility Licensure. Other services are provided depending upon the problems that have arisen and/or the available resources available within a facility.

When establishing an occupational health program, priorities should be developed in order to both meet the minimum requirements set by law or standard and to address the needs of employees and staff within the facility. Prevention programs tailored to the facilities needs should be included. This may include broad programs such as an annual influenza vaccination program or more targeted programs such as reducing back injuries in employees. The old adage "An ounce of prevention is worth a pound of cure" remains consistently true for both infection control and occupational health programs.

Recommendations are ranked according to the following schedule: Category 1 recommendations are strongly supported by clinical studies and epidemiologic evidence. They have been proven to be effective in controlling the spread of communicable disease among both patients and personnel in the health-care setting. Category 2 recommendations are highly supported for all adults although they have not been proven to be more effective in the health-care setting.

It should be noted that the facility does not need to provide the screenings or vaccinations free of charge although the cost may be a factor in achieving high immunization levels. One exception to this is that those employees determined to have occupational exposure to blood and body fluids must be offered the hepatitis B vaccine free of charge to be in compliance with the Occupational Safety and Health Administration's (OSHA) Bloodborne Pathogen Standard. In order to achieve compliance with vaccination policies, some facilities require that new employees be currently immunized prior to their start date (other than for hepatitis B vaccine). Immunization rates of staff are generally higher when the staff have been educated about the benefits of the immunization and when the vaccine is provided at no cost to the employee. Vaccines that should be considered for an employee health program include those for annual influenza, hepatitis B virus, tetanus, diphtheria, measles, mumps, rubella and pneumococcal disease.

Category 1

A. Employee Education

Recommendation - Employee education programs should be developed to teach isolation systems such as Universal or Body Substance Precautions, the importance of handwashing and basic infection control concepts.

B. Communicable Diseases

Recommendation - All new employees should complete a health assessment after selection, but prior to actually working. The assessment should include a review of immunization status and history of present disease or chronic conditions/illnesses which are communicable to patients; which would preclude him/her from patient-care; or not allow them to perform the essential functions of the job. Final hire and placement may be contingent on the passing of this assessment. (See page 10 in this section for further details of the employee placement exam and the Americans with Disabilities Act. A sample employee health questionnaire is located on page 12.)

C. Employee Illness

Recommendation - Facilities should have a written absentee policy that does not encourage an employee to work when ill. Employees with open lesions or weeping dermatitis must not provide direct patient care or prepare or handle food, resident belongings or equipment. Employees with a communicable disease or condition should be excluded from the workplace if the disease may be transmitted to others during the course of normal working conditions. Communicable diseases or conditions should be reported to the person responsible for employee health.

D. Occupational Exposure

Recommendation - The facility should develop a written policy that addresses potential occupational exposure(s) to communicable diseases which may occur at the worksite. The policy should include the criteria for exposure, restriction policies and prophylaxis. Exposures may include needlesticks, lice, scabies, tuberculosis and others for which follow-up is indicated.

E. Occupational Injury

Recommendation - A log should be kept to record occupational injuries and environmental hazards. The log should be periodically reviewed to identify protective changes needed in the work environment or training needs of staff. Additional

requirements may be necessary for compliance to OSHA, other governmental agencies or accrediting bodies.

F. Measles and Rubella

Recommendation - The Centers for Disease Control and Prevention (CDC) recommend that all health care workers be immunized against measles, mumps and rubella. A written policy should be adopted by your facility requiring this immunization in employees that are considered susceptible. Persons born prior to 1957 most likely have been infected naturally and need not be considered susceptible. (However, being born prior to 1957 is no guarantee that one will not be susceptible.) Screening those employees born in 1957 and after for proof of immunity is recommended. Acceptable proof may include:

1) a written history of physician diagnosed disease such as a photocopy of a medical record, or

2) laboratory evidence of measles, mumps and rubella immunity, or

3) an immunization record showing that in 1970 or later:

a) two doses of live measles vaccine were given at or after the age of 15 months;

b) a single dose of live mumps vaccine was given on or after 15 months of age;

c) a single dose of live rubella vaccine was given on or after 15 months of age.

Employees who do not meet the above criteria should be vaccinated or blood tested. Recent literature suggests that antibody screening of employees and selective vaccination is more cost-effective than mass immunization. The program should be determined by a cost analysis which will depend upon the number of employees without documented proof. It is not harmful to revaccinate someone who is already immune from prior vaccinations or disease. Females who are pregnant or plan to become pregnant within three months of vaccination, as well as all those personnel having true contraindications, should be excluded.

G. Hepatitis B

Recommendation - As required by OSHA, the hepatitis B vaccination series must be offered to health-care workers who have exposure to blood and body fluids that may contain bloodborne pathogens. Those employees who have such exposure and choose not to receive the vaccine must sign a refusal (see sample on page). The series consists of three doses that are given over a period of six months. There is not a

recommendation for boosters after the original three doses. Screening serum antibody levels is not routinely recommended although a titer should be obtained after an exposure to blood or other potentially infectious body fluids. If at that time, levels are below what is considered protective (< 10 mlU/ml or approximately 10 SRU by RIA or positive by EIA), an additional dose of vaccine should be given.

H. Influenza

Recommendation - An annual influenza immunization is strongly recommended for all staff (and residents) of long-term care facilities in the fall of each year. High vaccination rates of both staff and residents have a protective effect as this may decrease the incidence of influenza in a facility and thus, reduce further exposures. Subsequently, if infection does develop in a vaccinated person, the vaccine may reduce both the severity and duration of infection resulting in an improved outcome.

I. Varicella-zoster

Recommendation - Health-care workers in the long-term care setting should be screened for history of varicella-zoster infection. Usually adults are familiar with their immune status. Those persons who cannot recall their immune status should be tested for antibody and those who are susceptible may be vaccinated with the varicella-zoster vaccine (two doses 4-8 weeks apart). Unvaccinated susceptible employees should be educated about their immune status and restricted from direct contact with patients who have zoster lesions.

Susceptible health-care workers may become infected with varicella after contact with these lesions. Necessary precautions and exclusion guidelines are different in the hospital setting (negative pressure room) or if working with a population that is largely susceptible to varicella-zoster, such as children. In the hospital setting or when working with a susceptible population, susceptible employees who have been exposed to chickenpox or who have had direct contact with a person with shingles should be excluded from the workplace from the 10th to the 21st day after exposure.

Rationale - Varicella-zoster or chickenpox infection is a viral infection that is common during childhood. After the infection resolves, the virus lies dormant in the dermatomes of the nervous system. Sometimes, the virus reactivates resulting in a zoster infection ("shingles"). Persons who are not immune to the virus may develop chickenpox after exposure to a person with either chickenpox or shingles. Infection occurs most frequently by airborne transmission when the source patient has chickenpox and by direct contact when the source patient has shingles. In rare instances, a person with shingles may transmit the virus through the airborne route. Although chickenpox is generally benign in children, it can be more severe in adults

and immunocompromised children. Pneumonia is a common complication in older patients. Additionally, if a pregnant woman develops an initial infection during pregnancy, it may cause harm to the fetus. For these reasons, it is important to screen residents and staff to appropriately avoid high risk situations and to identify the need for follow-up should exposure occur.

J. Tuberculosis

Recommendation - The CDC recommends staff of long-term care facilities be two-step tested for tuberculosis by the Mantoux method to establish a reliable baseline. Multiple puncture tests should not be used. The CDC recommends the use of the two-step method for new employees who have not had a documented negative Purified Protein Derivative tuberculin (PPD) test within the past twelve months and a single Mantoux test for others. However, two-step testing can be used to establish a reliable baseline on all new employees. Skin-test negative employees and volunteers should be tested annually and after any exposure to a person who has infectious tuberculosis disease (i.e., positive sputum smear or culture).

Note that the tuberculin skin test may be administered on the same day as a live vaccine, such as the MMR. However, if the vaccine and the skin test cannot be administered on the same day, wait 4 - 6 weeks to administer the tuberculin skin test.

The Mantoux test consists of an intradermal injection of 0.1 ml of PPD containing 5 tuberculin units into either the volar or dorsal surface of the forearm. For two-step testing, if the reaction to the first test is negative, a second Mantoux test should be given one to three weeks later. If the second test result remains negative, the reaction is considered negative. However, if the reaction is positive, it probably represents a boosted reaction of an old infection and not a new infection. Persons reading the results of a PPD test should be trained to carefully measure the induration 48 to 72 hours following placement. The reading consists of observing the presence or absence of induration by inspection and palpation of the arm. If induration is present, it should be carefully measured and recorded in millimeters. Care should be taken not to include areas of erythema (redness) with this measurement.

A skin-test conversion is defined as an increase of ≥ 10 mm for a person < 35 years of age or an increase of ≥ 15 mm for a person ≥ 35 years of age. Health-care workers who perform high risk procedures such as bronchoscopy or who are frequently exposed to patients with tuberculosis should be retested at least every six months or more frequently as required by OSHA. A conversion rate among employees should be calculated on an annual basis for assessment of infection control activities and to ensure that nosocomial infections are not occurring.

Rationale - The two-step method is used because the first test of an infected person may sometimes show little or no reaction, while the second test is positive. In this instance, the first test stimulated the immune response so that the response to the second test is positive. This is called the boosting effect and indicates the person being tested has been previously sensitized to mycobacterial antigens.

Persons who may test positive include those infected with TB or a non-pathogenic mycobacterium, or recipients of the Bacillus of Calmette and Guerin (BCG) vaccination, although not all vaccine recipients will have a positive reaction. Any person with a positive skin test should receive the appropriate medical evaluation and follow-up in order to be screened for signs and symptoms of disease and to determine if anti-tuberculosis therapy is indicated.

Testing is indicated for all residents and staff except those persons with a documented history of a positive PPD test.* **An individual who has received the BCG vaccine should receive the Mantoux test unless he/she has a documented history of a positive PPD reaction. Although there is not a reliable method to distinguish whether the positive test is caused by actual TB infection or from the BCG vaccination, it is important to provide the appropriate medical evaluation and follow-up. Any positive result is considered an indicator for possible infection with *M. tuberculosis* and any person testing positive needs to be screened and/or evaluated. All persons with positive PPD results need medical evaluation and follow-up. The local health department or private physician is able to provide appropriate screening. Follow-up for a positive PPD test may include a chest x-ray, sputum collection, and/or treatment.**

Active tuberculosis is reportable by law. Any person diagnosed with active tuberculosis must be reported to the local health department. It is not necessary to conduct annual chest x-rays on PPD positive persons. Persons with a positive Mantoux should be aware of the signs and symptoms of tuberculosis and seek medical care if signs and symptoms compatible with active infection develop (e.g., cough, weight loss, fever and fatigue). In the elderly, however, symptoms may be atypical, especially in the immunocompromised.

All skin-test convertors should receive medical follow-up including a chest x-ray and if indicated, preventive treatment and be referred to the local health department. If the source of infection is not known and/or additional conversions occur, screening and periodic retesting of employees and residents should be done in an effort to locate the source. Consultation regarding follow-up of exposures or training for the administration and reading of the Mantoux test is available from the Utah Department

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*Note: The measles vaccination may temporarily suppress tuberculin reactivity. MMR vaccine may be given on the same day as TB testing. If the MMR has been given recently, postpone the TB test until 4 - 6 weeks after the administration of the MMR. Pregnancy is not a contraindication to the Mantoux test. Pregnant women may be screened safely using the Mantoux test.

of Health, Bureau of HIV/AIDS, Tuberculosis and Refugee Health Program at (801) 538-6096 or your local health department.

Category 2

A. Pneumococcal Disease

Recommendation - There is no special indication for health-care workers although vaccination may reduce the reservoir of infection in the long-term care setting. The pneumococcal polysaccharide vaccine is recommended for both residents and staff meeting one of the following conditions:

1) All persons aged 65 years or older

2) Immunocompetent adults who are at increased risk of pneumococcal disease because of chronic illnesses (e.g., cardiovascular disease, pulmonary disease, diabetes mellitus, alcoholism, cirrhosis, or cerebrospinal fluid leaks) or other factors (e.g., persons with splenic dysfunction or anatomic asplenia, Hodgkin's disease, other lymphomas, multiple myeloma, chronic renal failure, nephrotic syndrome, or conditions such as organ transplantation associated with immunosuppression).

3) Adults with symptomatic or asymptomatic HIV infection.

4) Persons living in special environments or social settings with an identified increased risk of pneumococcal disease or its complications.

It should be noted that both the pneumococcal and the influenza vaccines can be given at the same time at different sites without an increase in side effects.

B. Tetanus and Diphtheria

Recommendation - Although health-care workers are not at any more risk than the general public, immunizations should be given according to Immunization Practices Advisory Committee (ACIP) guidelines for adults. Immunization histories should be reviewed to ensure employees have a current Td vaccination.

After primary immunization, a tetanus-diphtheria booster should be given to all persons every ten years. Primary immunization consists of three adult doses of adult-tetanus-diphtheria toxoid (Td): 4 - 6 weeks should separate the first and second doses with the third dose given 6 - 12 months after the second dose. An additional booster may be recommended earlier than the ten year interval should a wound be sustained by an individual depending upon the type of wound and vaccination history.

Resources:

American Thoracic Society. ***Treatment of Tuberculosis and Tuberculosis Infection in Adults and Children.*** **The Am Review of Respiratory Disease 1986;134:355-363.**

The Association for Practitioners in Infection Control, Inc. ***Position Paper: Immunizations,*** **The Am J of Infect Control 1992;20:131-132.**

Bentley, D. ***Tuberculosis in Long-term Care Facilities,*** **The Am J of Infect Control 1990; 11:42-46.**

The Centers for Disease Control and Prevention. ***Guidelines for Preventing Transmission of Tuberculosis in Health-Care Settings, with Special Focus on HIV-Related Issues,*** **MMWR R-17.**

The Centers for Disease Control and Prevention. ***Prevention and Control of Tuberculosis in Facilities Providing Long-Term Care to the Elderly, Recommendations of the Advisory Committee for Elimination of Tuberculosis,*** **MMWR 1990;39:7-20.**

The Centers for Disease Control and Prevention. ***Protection Against Viral Hepatitis, Recommendations of the Immunization Practices Advisory Committee (ACIP),*** **MMWR 1990;39:RR-2:17-22.**

The Centers for Disease Control and Prevention. ***The Core Curriculum on Tuberculosis, What the Clinician Should Know,*** **Third Edition, 1994.**

The Centers for Disease Control and Prevention. ***Update on Adult Immunization, Recommendations of the Immunization Practices Advisory Committee (ACIP),*** **MMWR 1991; 40:RR-12:1-94.**

Finucaine, T. ***The American Geriatrics Society Statement on Two-step PPD Testing for Nursing Home Patients on Admission.*** **J of the Am Geriatric Society 1988;36:77-78.**

Gallium, M. and Magi, D. ***Brief Report: Tuberculin Testing, BCG in Pregnancy.*** **Infect Control and Hospital Epidemiology 1988;9:119-121.**

Pugliese, G. ***Screening for Tuberculosis Infection: An Update.*** **Am J of Infect Control, 1992;20:37-40.**

Smith, P. and Rusnak, P. ***APIC Guideline for Infection Prevention and Control in the Long-term Care Facility,*** **The Am J of Infect Control 1991;19:198-215.**

Wenzel, R. ***Prevention and Control of Nosocomial Infections.*** **(Baltimore: Williams and Wilkins, 1993), 295-332.**

Occupational Health Screenings and the Americans with Disabilities Act

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Essential Information for Employers

Prior to the first day on the job, new employees should be evaluated for conditions that could pose a threat to the health of others and to assure that the individual can perform the essential functions of the position. In order to comply with the Americans with Disabilities Act of 1990 (ADA), it is essential that those implementing employee health programs have an understanding of the act and its requirements.

Pre-placement occupational health screenings must be conducted in accordance with the ADA. The ADA prohibits private employers, state and local governments, employment agencies and labor unions from discriminating against disabled individuals, who are otherwise qualified, in hiring, firing, promotion, compensation and training. This act has affected all employers of fifteen or more employees since July 26, 1994. A disabled individual is one who has a physical or mental impairment that substantially limits one or more major life activities, who has a record of such impairment or is regarded as having such impairment.

Following the law set forth by the ADA does not mean that employers cannot hire the best person for the available position. Rather, the ADA requires that employers evaluate the ability of applicants to perform in a certain position. The ADA does not prevent employers from obtaining medical and related information necessary to evaluate the ability of applicants to perform essential job functions or to promote the health and safety on the job. However, it does require that an employer wait until after making a conditional job offer (prior to beginning work) before medical inquiries/evaluations can be made. At that time, the employer may not refuse to hire the person (who has been given a conditional job offer) unless the employer's reasoning is: 1) based upon information that is not job related and consistent with business necessity; or 2) hiring the individual would pose a direct threat to health and safety that cannot be reduced or eliminated by reasonable accommodation.

If an individual is rejected because he/she would pose a direct threat to health and safety, the employer must be prepared to show a significant current risk of substantial harm that is not speculative or remote and must be able to identify that risk. The risk must be documented by objective medical or factual evidence regarding the particular individual and not against all persons who have a certain condition. For instance, a person who has a history of back injuries cannot be excluded from a nurses' aide position based upon the fact that he/she may be likely to have another back injury in the future. However, the person may be excluded from the position if they cannot perform an essential function of the position (e.g., lift and transfer a 130 lb. patient from bed to commode to wheelchair, etc.) and the task is such that it cannot be reasonably accommodated. The following outline provides a summation of the ADA when developing employee health related questions. Additional resources and legal counsel should be consulted for questions for further information or specific questions.

Summary of ADA and Employee Health Issues

I. An individual is qualified for a position if *with or without reasonable accommodation*, he/she can perform all of the *essential* functions of a job.

A. Reasonable accommodation may include:
1. **Making facilities accessible and useable;**
2. **Restructuring or modifying the work schedule;**
3. **Acquiring or modifying equipment, examinations or training materials; and**
4. **Providing readers or interpreters.**

B. Employers must make reasonable accommodation if it would not pose an undue hardship on the operation of the employer's business (meaning that accommodation would create significant difficulty or expense in the light of an employer's size, resources, nature and structure of the operation).

II. Essential functions can be determined by interviewing a past or current representative sample of employees in that position to determine the task requirements of the position.

A. Consideration should be given to what functions the position was created for;
B. The number of other employees available to perform the function or who could share that function; and
C. The degree of skill or expertise required of the person performing the function.

III. *Pre-employment Pre-offer -*

A. Employers may ask questions prior to employment specifically about the ability to perform essential job functions.
B. Each position within a facility should be evaluated to determine the essential functions of the position.
C. Pre-employment screening may include asking an applicant if with or without reasonable accommodation, he/she can perform the essential job functions. All applicants must follow the same process. An applicant is qualified if one of the following apply:

1. **He/she can perform all essential job functions;**
2. **He/she can perform all of the essential job functions assuming that non-essential job functions can be assigned to another employee; or**

3. **He/she cannot perform some of the essential job functions but reasonable accommodation will allow the employee to perform these essential job functions.**
4. **Example: With or without reasonable accommodation, are you able to make beds and do general housekeeping including bending over to pick items off of the floor?**

IV. P*re-employment Post-offer* -

A. A medical examination may not be required before a job offer is made but the employer may make the job offer contingent upon the satisfactory result of the medical exam. However, this same screening process must apply to all persons offered jobs in the same or similar positions, not only persons suspected of having disabilities.

B. Additional questions may be asked, post-offer pre-employment including asking the applicant for:
1. **A description and/or demonstration of how the essential functions will be performed;**
2. **About past work history including worker's compensation claims or injuries; or**
3. **Other pertinent information.**

C. The employment offer may be withdrawn if there is evidence that:
1. **Hiring the applicant is not in accordance with good business sense (i.e., history of fraudulent worker's compensation claims); or**
2. **If accommodation would create undue hardship to the business; or**
3. **The applicant would pose a significant risk for substantial harm to the health or safety of the individual or others which cannot be eliminated or reduced by reasonable accommodation.**

V. Additional Information:

A. Technical Assistance Manual for Title I of the ADA by the Equal Employment Opportunity Commission

B. Rocky Mountain ADA Technical Assistance Center, telephone (800) 949-4232 3630 Sinton Road Suite 103, Colorado Springs CO 80907

For completion after hire **Date** _____

EMPLOYEE HEALTH HISTORY QUESTIONNAIRE

Name: _____
Last *Middle* *First* *Maiden*

Address: _____

Home Phone: _____ **Social Security #:** _____ **Birth Date:** _____

Sex: _____ **Marital Status:** _____ **Weight:** _____ **Height:** _____

Job Classification: _____ **Department:** _____

Family Physician: _____ **Phone:** _____

Address: _____

In An Emergency Notify: _____ **Relationship:** _____

Address: _____ **Phone:** _____

Do you have allergies to *(circle all that apply):*

a.	**latex or vinyl**	**b.**	**chemicals/household products**	**c.**	**soaps/personal care products**
d.	**foods**	**e.**	**pollens/dusts**	**f.**	**certain types of clothing/gloves**

Check the box that describes the communicable diseases, vaccinations or antibody titers you have had. Please include the date(s) of vaccination or titer completion.

Disease		Vaccine		Date		
Yes	No	Yes	No		
☐	☐	☐	☐	_____	rubeola (red measles—7 day)
☐	☐	☐	☐	_____	rubella (German measles—3 day)
☐	☐	☐	☐	_____	mumps
☐	☐	☐	☐	_____	hepatitis B
☐	☐	☐	☐	_____	chicken pox
☐	☐	☐	☐	_____	tetanus/diphtheria
☐	☐	☐	☐	_____	polio
☐	☐	☐	☐	_____	pneumococcal
☐	☐	☐	☐	_____	tuberculosis (BCG)

+Titer		Disease/Date
Yes	No	
☐	☐	_____
☐	☐	_____
☐	☐	_____
☐	☐	_____
☐	☐	_____

For Employee Health Use

If you have had a positive TB skin test, date of skin test conversion: _____

Last chest X-ray date: _____ **Result:** _____

Physician/Facility:_____

Please note that if you are pregnant or planning pregnancy please discuss the occupational risks peculiar to your position (such as possible exposure to communicable diseases, exposure to cleaner/disinfectant fumes and lifting) with your physician. If there are duties of your position that pose unnecessary risk, please discuss this with the employee health coordinator so that duties may be modified and risks minimized.

The information on this health questionnaire is complete and accurate to the best of my knowledge. I understand information contained in this form is <u>confidential</u>. The information is needed by Employee Health to address health and safety concerns including communicable disease risk to others within the facility.

Employee Signature: _____ Date: _____

For Employee Health Use:

Tuberculosis:

TB Skin:(Baseline) Date _____ Result _____

Date _____ Result _____

(circle one)

Chest Film Indicated: yes no

If yes, date _____ Result _____

Follow-up and Referral: _____

_

_____

___

Hepatitis B:

	Yes	No	Date
HBV vaccine offered	☐	☐	_____
HBV vaccine refused	☐	☐	_____
HBV refusal signed and filed	☐	☐	_____

_____
(first dose- Date)

_____
(second dose- Date)

_____
(third dose-Date)

Hepatitis B Virus Vaccination Series

Vaccinations Indicated:

		(circle one)			
MMR	**number_____**	**yes**	**no**	**date(s) given**	**_**
					_
					_
					_
					_
					_
					_
					_____
Hepatitis B	**number_____**	**yes**	**no**	**date(s) given**	***use above box***
Tetanus/diphtheria	**number_____**	**yes**	**no**	**date(s) given**	**_____**
Pneumococcal		**yes**	**no**	**date given**	**_____**

The following recommendations were discussed with the employee:

Reviewer Signature: _____ **Date:** _____

HEPATITIS B VACCINATION DECLINATION FORM

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure within the Department of Health to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Employee Name _____

Facility _____

Employee Signature _____ **Date:**_____

Occupational Health Signature _____ **Date:**_____

MANAGEMENT OF PERSONS EXPOSED TO BLOOD[1]

Once an exposure has occurred, blood from the source individual should be tested for hepatitis B surface antigen (HBsAg) and antibody to human immunodeficiency virus (HIV antibody) if permission is granted from the source individual or his/her guardian. The appropriate follow-up on the exposed person varies according to his/her vaccination status and the source individual's test results. Specific information is contained in Tables I and II. Federal, state and local laws regarding counseling and consent for testing of blood from the source individual and the exposed person should be followed. Blood for HIV and hepatitis B testing should be drawn at a location where appropriate pre- and post-test counseling are available. If necessary, referral for treatment should be provided.

Table I: Hepatitis B Virus Postexposure Management[2]

IF	AND	THEN
The source individual is found positive for HBsAg.	The exposed person *has not been vaccinated* against hepatitis B.	1. The exposed person should receive the vaccination series for hepatitis B beginning as soon as possible after exposure. 2. The exposed person should receive a single dose of hepatitis B immune globulin (HBIG) if it can be given within 7 days of exposure.
	The exposed person *has been vaccinated* against hepatitis B.[3]	1. The exposed person should be tested for antibody to hepatitis B surface antigen (anti-HBs). 2. If the antibody level in the exposed person's blood sample is inadequate (i.e., <10 SRU by RIA, negative by EIA), give one dose of vaccine and one dose of HBIG. Known non-responders should be given two doses of HBIG or a single dose of HBIG and a single dose of vaccine.
The source individual is found negative for HBsAg.	The exposed person *has not been vaccinated* against hepatitis B.	The exposed person should be offered the hepatitis B vaccine.
	The exposed person *has been vaccinated* against hepatitis B.	No further action is needed.
The source individual refuses testing or cannot be identified.	The exposed person *has not been vaccinated* against hepatitis B.	1. The exposed person should receive the hepatitis B series. 2. HBIG administration should be considered on an individual basis when the source individual is known or suspected to be at high risk of HBV infection.
	The exposed person *has been vaccinated* against hepatitis B.	Management and treatment of the exposed person should be individualized.

[1]An exposure to blood means having blood, blood-contaminated body fluids or a blood-contaminated object pierce the skin (e.g., needlestick); come into contact with mucous membranes or non-intact skin. Blood, semen, vaginal secretions, certain body fluids (cerebrospinal, synovial, pleural, peritoneal, pericardial, amniotic) and any other body fluid that is contaminated with blood are considered potentially infectious for HBV and HIV. Exposures should be evaluated individually by a qualified medical professional to ensure that follow-up is warranted and provided in an appropriate manner. Human bites which break the skin and contain HBsAg positive saliva may result in transmission of the hepatitis B virus.

[2]The information given in the table is based on recommendations in *Guidelines for Prevention of Transmission of HIV and HBV to Health-Care and Public-Safety Workers*. DHHS (NIOSH) Publication No. 89-107: Cincinnati, Ohio, February 1989 and *Protection against Viral Hepatitis, Recommendations of the ACIP Committee, MMWR,* 1990;39,RR-2:15-17.

[3]If the exposed person has been vaccinated for hepatitis B, the provider may draw and store the source individual's blood, testing for hepatitis B surface antigen if the person's antibody is found to be below the protective level.

Table II: Human Immunodeficiency Virus Postexposure Management[3]

IF	THEN	AND
The source individual has AIDS. **OR** **The source individual is positive for HIV infection.** **OR** **The source individual refuses to be tested.**	**1. The exposed person should be counseled about the risk of infection.** **2. The exposed person should be evaluated clinically and serologically for evidence of HIV infection as soon as possible after the exposure if consent is given. An employee may choose not to be tested at this time but may want to submit a blood sample for testing at a later date upon request. Storage may be for up to ninety days.** **3. The exposed person should be advised to seek medical evaluation for any acute illness (particularly if characterized by fever, rash, myalgia, fatigue, malaise or lymphadenopathy) that occurs within 12 weeks after the exposure.** **4. The exposed person should be advised to follow the recommendations for preventing transmission of HIV.** **5. The Public Health Service recommend that clinicians consider using a combination of AZT, 3TC and protease inhibitors for post-exposure prophylaxis depending upon the exposure. If chosen, prophylaxis should be started as soon as possible after the exposure (1-2 hours).**	**An exposed person who provides consent and tests negative at baseline should be retested at 6 weeks, 12 weeks, and 6 months after exposure to determine whether transmission has occurred.** **Confidential pre- and post-test counseling from a qualified health professional should be provided.** ***Public Health Recommendations to Prevent the Transmission of HIV*: During this follow-up period, especially during the first 6-12 weeks after the exposure, the exposed person should refrain from breast-feeding, donating blood, semen or organs and abstain from or use measures to prevent HIV transmission during sexual relations.**
The source individual is tested and found seronegative.	**Provide follow up testing as described above if one of the following is met: 1) epidemiologic evidence suggests that the source individual has risk factors for exposure to HIV; 2) the exposed person/guardian desires follow-up testing; or 3) testing is recommended by the health care provider providing follow-up. Otherwise, no further follow-up is necessary.**	**The recommendations found above apply.**
The source individual cannot be identified.	**Decisions regarding appropriate follow-up should be individualized. Serologic testing should be done if the exposed person is concerned that HIV transmission has occurred.**	**The decisions should be based on factors such as whether potential sources are likely to include a person at increased risk of HIV infection.**

[3]**The information given in the table is based on recommendations in *Public Health Service Statement on Management of Occupational Exposure to HIV, including considerations for Zidovudine Postexposure Use, MMWR,* Vol. 39, RR-1; 1990 and *Update: Provisional Public Health Service Recommendations for chemoprophylaxis After Occupational Exposure to HIV, MMWR,*1996;45:469-472.**